

WHAT IS CLAIMED IS:

1. A method of dynamically managing the resources of a hierarchical organization, wherein the hierarchical organization comprises  $n$  levels  $L_1 \dots L_n$  with  $n$  being a positive integer, wherein for at least  $i > 1$  each level  $L_i$  comprises a plurality of members, and wherein the members of level  $L_{i-1}$  comprise groupings of the members of level  $L_i$ , said method comprising:
- creating a maintenance plan comprising at least one task at each level  $L_1 \dots L_n$ , wherein for at least  $i > 1$  the at least one task at each level  $L_i$  at least partially includes groupings of the at least one task of level  $L_{i-1}$ , and wherein the maintenance plan at each level includes an associated predetermined threshold time;
  - scheduling performance of the at least one task by at least one resource, wherein the at least one resource acts on at least a portion of the at least one task to thereby perform the at least one task;
  - performing one of the at least one task at the level  $L_i$ ;
  - monitoring the performance of the at least one task to determine an amount of time required to perform the task performed and thereafter projecting a completion time associated with the maintenance plan;
  - comparing the projected completion time to the predetermined threshold time associated with the maintenance plan, wherein when the projected completion time is no greater than the predetermined threshold time another task of the maintenance plan is performed, monitored and compared at the level  $L_i$  until the each of the at least one task of the maintenance plan has been performed;
  - determining whether performance of the other tasks of the maintenance plan can be rescheduled such that the maintenance plan can be completed within the predetermined threshold time, wherein determining occurs when the projected completion time is greater than the predetermined threshold time;
  - soliciting additional resources from a higher level  $L_{i+1}$ , wherein soliciting occurs when at least one resource cannot be rescheduled to execute the other tasks of the maintenance plan within the predetermined threshold time; and
  - allocating additional resources to level  $L_i$  and thereafter rescheduling the at least one resource at level  $L_i$  to include the additional resources allocated from level  $L_{i+1}$  to act on at least a portion of other of the at least one task to thereby perform the other of the at least one task.

2. A method according to Claim 1, wherein soliciting comprises soliciting additional resources from level  $L_{x+1}$ , wherein  $x = i$ , wherein soliciting repeatedly continues for  $x = x + 1$  until at least one of  $x = n$  and a level  $L_x$  having additional resources available to allocate is discovered, and wherein allocating comprises allocating additional resources to level  $L_x$  from level  $L_{x+1}$ , wherein allocating repeatedly continues for  $x = x - 1$  until  $x = i$ .

3. A method according to Claim 1 further comprising recreating the at least one maintenance plan to reduce a demand on the at least one resource to perform the at least one task, wherein recreating occurs when no additional resources are available to allocate, and wherein the demand is reduced such that the projected completion time is no greater than the predetermined threshold time.

4. A system for dynamically managing the resources of a hierarchical organization, wherein the hierarchical organization comprises  $n$  levels  $L_1 \dots L_n$  with  $n$  being a positive integer, wherein for at least  $i > 1$  each level  $L_i$  comprises a plurality of members, and wherein the members of level  $L_{i-1}$  comprise groupings of the members of level  $L_i$ , at each level said system comprising:

an organizing processing element capable of creating a maintenance plan comprising at least one task, wherein said organizing processing element is capable of scheduling performance of the at least one task of the maintenance plan, and wherein the maintenance plan includes an associated predetermined threshold time;

at least one resource capable of acting on the at least one task of the maintenance plan at the level  $L_i$  to thereby perform the at least one task, wherein said organizing processing element is capable of scheduling the at least one resource to act on the at least one task to thereby schedule performance of the at least one task;

a monitoring processing element capable of monitoring the performance of the at least one task at least partially based upon a status of the at least one task, wherein said monitoring processing element is capable of determining an amount of time required to perform the at least one task and thereafter projecting a completion time associated with the maintenance plan, wherein said monitoring processing element is capable of comparing the projected completion time to the predetermined threshold time associated with the maintenance plan,

wherein when the projected completion time is greater than the predetermined threshold time said monitoring processing element is capable of communicating with said organizing processing element to determine whether performance of the other tasks of the maintenance plan can be rescheduled such that the maintenance plan can be completed within the predetermined threshold time, wherein when the at least one resource cannot be rescheduled said organizing processing element is capable of soliciting additional resources from said organizing processing element at a higher level  $L_{i+1}$ , wherein said organizing processing element at level  $L_{i+1}$  is capable of communicating additional resources to allocate from level  $L_{i+1}$  to level  $L_i$  to act on at least a portion of other of the at least one task to thereby perform the other of the at least one task, and wherein said organizing processing element at level  $L_i$  is capable of rescheduling the at least one resource at level  $L_i$  to include the additional resources allocated from level  $L_{i+1}$ .

5. A system according to Claim 4, wherein each level of said system further comprises at least one indicator capable of indicating the status of the at least one task of the maintenance plan.

6. A system according to Claim 4, wherein said organizing processing element at level  $L_i$  is capable of soliciting additional resources from level  $L_{x+1}$ , wherein  $x = i$ , wherein when no additional resources are available to allocate from level  $L_{x+1}$  the soliciting repeatedly continues at said organizing processing element of level  $L_x$  for  $x = x + 1$  until at least one of  $x = n$  and a level  $L_x$  has additional resources available to allocate, wherein organizing processing element at level  $L_{x+1}$  is capable of communicating additional resources to allocate from level  $L_{x+1}$  to level  $L_x$ , and wherein communicating additional resources repeatedly continues for  $x = x-1$  until  $x = i$ .

7. A system according to Claim 4, wherein said organizing processing element is further capable of recreating the maintenance plan to reduce a demand on the at least one resource to perform the at least one task such that the projected completion time is no greater than the predetermined threshold time.

8. A computer program product for dynamically managing the resources of a hierarchical organization, wherein the hierarchical organization comprises  $n$  levels  $L_1 \dots L_n$  with  $n$  being a positive integer, wherein for at least  $i > 1$  each level  $L_i$  comprises a plurality of members, and wherein the members of level  $L_{i-1}$  comprise groupings of the members of level  $L_i$ , the computer program product comprising a computer-readable storage medium having computer-readable program code embodied in said medium, the computer-readable program code comprising:

a first executable portion for creating a maintenance plan comprising at least one task at each level  $L_1 \dots L_n$ , wherein for at least  $i > 1$  the at least one task at each level  $L_i$  at least partially includes groupings of the at least one task of level  $L_{i-1}$ , and wherein the maintenance plan at each level includes an associated predetermined threshold time;

a second executable portion for scheduling performance of the at least one task at each level by at least one resource, wherein the at least one resource acts on at least a portion of the at least one task to thereby perform the at least one task;

a third executable portion for monitoring the performance of the at least one task as one of the at least one task is performed at the level  $L_i$ , wherein monitoring comprises monitoring to determine an amount of time required to perform the task performed and thereafter projecting a completion time associated with the maintenance plan;

a fourth executable portion for comparing the projected completion time to the predetermined threshold time associated with the maintenance plan, wherein when the projected completion time is no greater than the predetermined threshold time another task of the maintenance plan is performed, monitored and compared at the level  $L_i$  until the each of the at least one task of the maintenance plan has been performed;

a fifth executable portion for determining whether performance of the other tasks of the maintenance plan can be rescheduled such that the maintenance plan can be completed within the predetermined threshold time, wherein determining occurs when the projected completion time is greater than the predetermined threshold time;

a sixth executable portion for soliciting additional resources from a higher level  $L_{i+1}$ , wherein soliciting occurs when at least one resource cannot be rescheduled to execute the other tasks of the maintenance plan within the predetermined threshold time; and

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a seventh executable portion for allocating additional resources to level  $L_i$ ,  
wherein said second executable portion thereafter reschedules the at least one  
resource at level  $L_i$  to include the additional resources allocated from level  $L_{i+1}$  to act  
on at least a portion of other of the at least one task to thereby perform the other of the  
5 at least one task.

9. A computer program product according to Claim 8, wherein said sixth  
executable portion solicits additional resources from level  $L_{x+1}$ , wherein  $x = i$ , wherein  
soliciting repeatedly continues for  $x = x + 1$  until at least one of  $x = n$  and a level  $L_x$   
10 having additional resources available to allocate is discovered, and wherein said  
seventh executable portion allocates additional resources to level  $L_x$  from level  $L_{x+1}$ ,  
wherein allocating repeatedly continues for  $x = x - 1$  until  $x = i$ .

10. A computer program product according to Claim 8, wherein said first  
15 executable portion further recreates the at least one maintenance plan to reduce a  
demand on the at least one resource to perform the at least one task when no  
additional resources are available to allocate, wherein the demand is reduced such that  
the projected completion time is no greater than the predetermined threshold time.